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WORK GROUP INTERDEPENDENCE AND ROLE CONFLICT AND
AMBIGUITY: IDENTIFYING SOURCES OF JOB-RELATED STRESS

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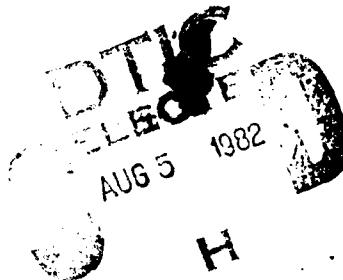
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Work Group Interdependence
and Role Conflict and Ambiguity:
Identifying Sources of Job-Related Stress

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Conflict and Ambiguity

1

Abstract

As the impact of job stressors such as role conflict and role ambiguity becomes more apparent, social scientists have attempted to delineate potential moderating influences that might protect the worker from the stresses of the job. Considerable evidence exists which suggests that the nature of leader-subordinate and workgroup interactions are linked to the influences of stress. The present study postulated that leader practices would be more important in reducing job stress (role conflict and ambiguity) in workgroups involved in highly interdependent and cooperative tasks than for those who are not. Analyses conducted on 952 Navy enlisted personnel supported the hypothesis that stress is more highly related to leader practices for high versus low task interdependent groups.

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Work Group Interdependence and Role Conflict and Ambiguity:

Identifying Sources of Job-Related Stress

Role conflict and role ambiguity have become major focal points in recent research regarding job stress. Such renewed interest has revealed a variety of adverse outcomes that are typically associated with both conflict and ambiguity, including voluntary turnover and absenteeism, reduced performance, and greater dissatisfaction (Greene & Organ, 1973; Johnson & Graen, 1973; Johnson & Stinson, 1975; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Lyons, 1971; Rizzo, House, & Lirtzman, 1970). As evidence continues to mount regarding the negative impact of role conflict and ambiguity, increasing attention is being directed toward the discovery of factors that might protect or buffer the employee from these stresses.

The search for buffering factors has focused on both individual and (to a lesser extent) situational characteristics. It has been shown, for example, that not all workers respond negatively to role conflict and ambiguity; rather, responses tend to be moderated by such individual characteristics as introversion/extroversion, flexibility/rigidity, locus of control, and cognitive complexity (cf. Anderson, 1977; Kahn et al., 1964; Lyons, 1971; Jones & LaRocco, Note 1). As Jones and LaRocco noted, individuals who are more oriented toward information-seeking and who make finer distinctions about their environment (i.e., more cognitively complex) appear less distressed by ambiguity and by conflict.

At the group or situational characteristics level, Cobb (1976) suggested that the quality of interpersonal relations may buffer the effects of stress. This approach, however, has focused heavily on the influences of social support available to or perceived by the individual. Based on a decade of reported studies, Cobb (1976) concluded that appropriate social supports can not only ameliorate the level or intensity of job stress, but also buffer (or protect)

the individual from the negative effects of such stresses. Subsequent studies, however, while continuing to show that social support is positively related to a number of desirable outcomes, have generally failed to demonstrate the buffering effects noted by Cobb (cf. LaRocco & Jones, 1978).

Considerable evidence does exist, however, which demonstrates that the nature of leader-subordinate and workgroup interactions are related to the influences of job stress. House and Rizzo (1972), for example, reported significant relationships between leadership practices and role conflict. Corwin (1969) showed that linkages between specialized and complex roles are major sources of conflict, while Miles and Perreault (1976) concluded that individuals whose roles were related to organizational linking activities were also likely to experience higher levels of conflict. Finally, data reported by LaRocco and Jones (1978) revealed a consistent (although not always significant) trend in that individuals who reported highly cooperative and interdependent relationships with co-workers also tended to experience lower levels of role conflict and ambiguity.

Collectively, the above studies suggest several additional relationships. First, it might be hypothesized that workgroups involved in highly interdependent tasks where success requires coordinated effort from all members and high levels of workgroup cooperation would be sensitive to the negative consequences of job stress. Second, because such groups are highly interdependent, one might also expect that leader practices, especially those involving work facilitation, planning, and coordination, would be important factors in reducing job stress. For jobs or workgroups that are less interdependent, however, one would anticipate less emphasis on workgroup

cooperation, and that sources of stress might be more strongly related to other activities such as boundary-spanning or dealing with persons outside the workgroup.

The present study compared levels of two job stresses, role conflict and role ambiguity, for shipboard workgroups involved in highly interdependent and cooperative tasks versus workgroups involved in less interdependent, more externally oriented tasks. It seems logical to expect that jobs which require coordination of activities or linking of roles with other individuals and workgroups would produce higher levels of conflict and ambiguity among workers. Similarly, an emphasis on structuring of activities by the leader would tend to be associated with lower levels of conflict and ambiguity in the worker, regardless of occupational/job type. Thus, it was hypothesized that (a) conflict and ambiguity would be more closely linked to perceived leader behaviors in occupational settings requiring within-group coordination (high interdependence) than in occupational settings coordinating with persons outside the immediate workgroup (low interdependence), and (b) that conflict and ambiguity would, overall, be more closely tied to negative outcomes in the high interdependence group.

Method

Sample and Procedures

The sample consisted of 952 male, enlisted personnel in paygrades E-1 through E-6 serving aboard 15 U.S. Navy destroyer-type ships deployed in the Pacific and Atlantic Oceans. Analyses were limited to these paygrades because individuals at higher levels were involved in considerable inter-workgroup and inter-divisional interaction regardless of specific workgroup

assignment, occupational specialty, or task demands. All participating individuals voluntarily completed questionnaires in group sessions at the outset of a 6 to 8-month deployment period (75% response rate).

In addition, this sample represented two major occupational classifications: (a) high interdependence workgroups where the assigned tasks demanded coordinated effort and cooperation from all members ($n = 567$), and (b) low interdependence workgroups ($n = 385$) whose work required considerable interaction with persons outside the immediate workgroup. The former group was comprised of individuals with an overall technical/mechanical orientation who tended to work in teams (e.g., Gunner's Mates, Fire Control Technicians, Antisubmarine Warfare Specialists). The second, low interdependence group included fewer technical specialties and was primarily composed of service-oriented individuals (Disbursing Clerks, Storekeepers, Ship's Servicemen, Personnelmen, Yeomen, and Hospital Corpsmen).

Measures

Role conflict and role ambiguity were measured by means of two 6-item composites ($\alpha = .62$ and $.58$, respectively) based on the Job Related Tension Scale (cf. Kahn, et al., 1964). The former measure reflected the degree to which incompatible demands were placed on the individual as a function of his role, whereas the latter assessed the clarity (or lack thereof) with which role demands were articulated.

Leader practices were measured by 23 items derived from the LBDQ (cf. Bowers and Seashore, 1966) grouped into six a priori composites: (a) Leader Support (the extent to which the leader is aware of and responsive to the needs of subordinates; 5 items, $\alpha = .81$), Goal Emphasis (behavior that stimulates

personal involvement in meeting group goals; 4 items, $\alpha = .62$); (c) Work Facilitation (behavior that helps to achieve goal attainment; 5 items, $\alpha = .73$), (d) Interaction Facilitation (behavior that encourages the development of close, mutually satisfying relationships within the group; 4 items, $\alpha = .70$), (e) Planning and Coordination (the degree to which the supervisor is able to plan and coordinate the group's abilities to achieve maximum performance; 3 items, $\alpha = .56$), and (f) Upward Interaction (the degree to which the supervisor is successful in interactions with higher levels of command; 2 items, $\alpha = .47$).

Three additional outcome measures were also included. Job satisfaction (Hackman & Lawler, 1971) was measured by a 12-item composite ($\alpha = .85$) which contained items assessing satisfaction with opportunities for personal growth, for job challenge, for independent thought and action, as well as job security, quality requirements, training, authority, and so forth. A similar, 4-item Navy satisfaction composite ($\alpha = .85$) was included as was a single item (presented in 5-point Likert format) which assessed an individual's reenlistment intentions. These measures and their development have been described in detail elsewhere (cf. Jones & James, 1979).

To assess the relationships as stated above, separate correlations between the two stress measures and the various leader and outcome measures were calculated for each of the two occupational groups. Between group comparisons were made using t-tests for differences between dependent correlations (McNemar, 1969).

Results and Discussion

Correlations between role conflict and ambiguity and the leadership and job outcome measures for each interdependence group are shown in Table 1. As noted in the table, both conflict and ambiguity were significantly, and negatively,

correlated with the leadership and job outcome measures, regardless of occupational group. Furthermore, and as hypothesized, the relationships between role conflict and three of the leadership measures (Leader Support, Work Facilitation, and Upward Interaction) were significantly greater for the high interdependence group. A similar pattern was also found between role ambiguity and the Leader Support and Upward Interaction composites, although the expected difference between interdependence groups for Work Facilitation only approached significance ($p < .10$). The expected differences in the correlations with satisfaction and reenlistment intentions were not found.

Insert Table 1 about here

Such findings tended to support the hypothesis that role conflict and role ambiguity are more disruptive to groups whose tasks require greater coordination of within-group activities. In short, the leader appears to play a more important role in situations requiring coordination of activities, perhaps because of a more active role in reducing intermember conflict or in providing essential information. The results also suggested that the factors leading to a particular level of conflict and ambiguity may be somewhat different for workgroups characterized by high versus low task interdependence. In light of the nonsignificant differences between high and low task interdependence groups regarding relationships with various job outcomes, however, this latter issue should be explored further.

Finally, in interpreting these data one must remember the degree to which the groups may differ in a variety of other ways, such as task complexity, personnel composition, and so forth. Thus, any comprehensive program designed to explore the influences of job-related stress must deal simultaneously with a nesting of situational and individual factors. Nevertheless, the current

Conflict and Ambiguity

8

data do provide evidence which points to the insidious nature of job stress, and further help to identify at least one situational condition under which adverse influences of job stress might be examined. Awareness on the part of supervisory personnel concerning the special vulnerability of more highly interdependent workgroups, as defined by technical versus service-oriented occupational specialties, may thus provide additional impetus for the development, training, and implementation of appropriate leader behaviors.

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References Notes

1. Jones, A. P., & LaRocco, J. M. Cognitive complexity and responses to role conflict and role ambiguity. Paper presented at the 86th Annual Meeting of the American Psychological Association, Toronto, Canada: September, 1978.

Table 1

Relationships of Role Stress to Leadership Dimensions and Job
Outcome Measures for High and Low Interdependence Work Groups

	<u>Role Ambiguity</u>		<u>Role Conflict</u>				
			Low		High		
	Interdependence		Interdependence		Interdependence		Interdependence
	Group ^a	Group ^b	Group	Group	Group	Group	Group
<u>Leadership Dimensions</u>	<u>I</u>	<u>E</u>	<u>I</u>	<u>E</u>	<u>I</u>	<u>E</u>	<u>I</u>
Leader Support	-42	-56	-34	-51	-34	-51	-34
Goal Emphasis	-40	-41	-16	-41	-16	-41	-16
Work Facilitation	-43	-51	-28	-51	-28	-51	-28
Interaction Facilitation	-43	-44	-32	-44	-32	-44	-32
Planning and Coordination	-41	-48	-46	-48	-46	-48	-46
Upward Interaction	-24	-36	-21	-36	-21	-36	-21
<u>Job Outcomes</u>							
Job Satisfaction	-37	-45	-44	-45	-44	-45	-44
Navy Satisfaction	-36	-45	-42	-45	-42	-45	-42
Intent to Reenlist	-25	-29	-27	-29	-27	-29	-27

NOTE: Values joined by underscore are significantly different ($P < .05$); decimal points are omitted.

$$\frac{a}{n} = 385$$

$$\frac{b}{n} = 567$$

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Block 20.

Analyses conducted on 952 Navy enlisted personnel supported the hypothesis that stress is more highly related to leader practices for high versus low task interdependent groups.